

JUL 24 2007

Application No. 10/538,508

Docket No. 424662011500

REMARKS

Initially, applicants thank the Examiner for taking the time and effort to thoroughly explain the rejections and to respond to applicants' previous remarks. The Examiner's efforts have allowed applicants to address the rejections more concisely.

Applicants have amended claim 1 to recite "a motor having at least one switched phase winding having a switching frequency greater than 2kHz and configured to drive an impeller" as disclosed at least at page 12, lines 7-23, of applicants' specification. No new matter has been added.

Applicants further thank the Examiner for noting that he has not imposed a restriction requirement on this application and that he has merely indicated that such a requirement may be made at a later time. Applicants reserve the right to argue against such a requirement should one be made during the course of prosecution.

Claims 2 and 3 stand rejected under 35 USC 112, second paragraph. Applicants respectfully traverse this rejection.

While the Examiner has clearly detailed his understanding of the claim language, applicants respectfully disagree with the stated interpretation. As detailed by the Examiner, insert drawing #5 of the current Action shows a waveform having a peak voltage A. The drawing also shows a point B that is at 85% of the peak voltage, point D which is between 100% of the peak voltage and 85% of the peak voltage, and point C which is below 85% of the peak voltage. Based on the Examiner's Explanation of the drawing on page 7 of the Action, applicants submit that the Examiner has used the term 15% of the peak voltage to describe point B.

The Examiner's interpretation is the opposite of conventional understanding. 15% of a given value cannot reasonably be interpreted to be 85% of that value. For example, if a peak voltage is 100V, 15% of that voltage is 15V, NOT 85V as suggested by the Examiner. Similarly, 10% of the peak voltage is 10V, which is less than or below 15V. Contrary to the Examiner's understanding, applicants have not claimed that the voltage of the capacitor has fallen 15% from the

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peak voltage as the Examiner has interpreted the claim. Claim 1 recites that "the voltage across the capacitor falls below 15% of the nominal peak rectified voltage of the source during each cycle of the alternating source," and claims 2 and 3 further limit the voltage to 10% and 5% of the nominal peak rectified voltage, respectively. (See applicants' Figs. 13 and 19.) Accordingly, claims 2 and 3 are allowable.

Claims 1-5, 7-16 and 18-22 stand rejected under 35 USC 103(a) on Kuriyama (U.S. Patent No. 5,705,904). Applicants respectfully traverse this rejection.

Applicants have further amended claim 1 to recite "an electrical apparatus comprising: a motor having at least one switched phase winding having a switching frequency greater than 2kHz and configured to drive an impeller." Kuriyama does not disclose or suggest such features. Furthermore, one of ordinary skill in the art at the time of the invention would not have been motivated to modify the device of Kuriyama to achieve applicants' invention.

While the Examiner has cited a textbook showing a relationship between ripple voltage, peak voltage, frequency of a power source, capacitance and load impedance, the Examiner has failed to provide any evidence that one of ordinary skill in the art at the time of the invention would have been motivated to achieve the claimed invention. The Examiner has conceded that Kuriyama does not disclose that "the voltage across the capacitor falls below 15% of the nominal peak rectified voltage of the source during each cycle of the alternating source." The Examiner's citation to the textbook formula for determining ripple voltage merely provides evidence that applicants' claimed invention follows the laws of physics.

As previously argued, applicants discovered a deficiency in the art, namely that the known circuit configurations for controlling high speed motors configured to drive impellers required large and expensive capacitors. Prior to applicants' invention, it was necessary to use these large capacitors to control motors while maintaining certain harmonics within allowed frequency bands. One of ordinary skill in the art at the time of the invention would not have been motivated to use a

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smaller capacitor in the place of a large capacitor, an inductor and a diode. Such a modification would have been contrary to any motivation that existed prior to applicants' invention.


Based on their discovery, applicants' invention utilizes a capacitor which is capable of absorbing recovered energy from a motor, particularly during acceleration, yet small enough such that the energy stored in the capacitor is rapidly removed and required power to drive the motor is taken from a main power supply. Kuriyama does not disclose or suggest such features.

Claim 1 is therefore allowable. Claims 2-5, 7-16 and 18-22 depend from claim 1 and are allowable due at least to their respective dependencies.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief, including extensions of time, and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. **424662011500**.

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